

# **Fauquier County Stormwater Management Ordinance**

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### **Introduction**

The Board of Supervisors desires to protect and preserve the physical beauty, historical heritage and environmental integrity of the County. The Board recognizes that development may degrade the waters through increasing flooding, stream channel erosion, and the transport and disposition of waterborne pollutants. Therefore, the County finds it is in the public interest to enable the establishment of stormwater management programs.

### **Section 1. General Provisions**

#### **1.1. Statutory Authority**

The Virginia Stormwater Management Law (“Law, also known as the Virginia Stormwater Management Act or “Act”) Title 10.1, Chapter 6, Article 1.1 of the Code of Virginia, enables localities to adopt, by ordinance, a stormwater management program consistent with state regulations promulgated pursuant to the Law.

#### **1.2. Purpose**

The purpose of this ordinance is to establish minimum stormwater management requirements and controls to protect properties, safeguard the general health, safety, and welfare of the public residing in watersheds within this jurisdiction, and protect aquatic resources. This ordinance seeks to meet that purpose through the following objectives:

1. Require that land development and land conversion activities control the after-development runoff characteristics, as nearly as practicable, to the pre-development runoff characteristics in order to reduce the magnitude and frequency of flooding, siltation, stream bank erosion, and property damage;
2. Establish minimum design criteria for the protection of properties and aquatic resources downstream from land development and land conversion activities from

damages due to increases in volume, velocity, frequency, duration, and peak flow rate of storm water runoff;

3. Establish minimum design criteria for measures to minimize nonpoint source pollution from stormwater runoff, which would otherwise degrade water quality;

4. To reduce flood damage in an effort to safeguard public health, safety and property.

### **1.3. Applicability**

This ordinance shall be applicable to all subdivision, site plan, or land use conversion applications, unless eligible for an exception by the Board of Supervisors or its designee. The ordinance also applies to land development activities that are smaller than the minimum applicable criteria if such activities are part of a larger common plan of development that meets the applicability criteria, even though multiple separate and distinct land development activities may take place at different times on different schedules.

To prevent the adverse impacts of stormwater runoff, the county has developed a set of performance standards that must be met at all development sites. These standards apply to any land development or land use conversion activity disturbing 10,000 square feet or more of land.

Economic hardship is not sufficient reason to grant an exception from the requirements of this ordinance.

The following activities are exempt from these stormwater performance criteria:

1. Permitted surface or deep mining operations and projects, or oil and gas operations and projects conducted under the provisions of Title 45.1 of the Virginia Stormwater Management Act;
2. Tilling, planting or harvesting of agricultural, horticultural, or forest crops;
3. Single-family residences separately built and not part of a subdivision, including additions or modifications to existing single-family detached residential structures;
4. Land development projects that disturb less than 10,000 square feet of land area; and
5. Linear development projects, provided that (i) less than 10,000 square feet of land will be disturbed per outfall or watershed, (ii) there will be insignificant increases in peak flow rates, and (iii) there are no existing or anticipated flooding or erosion problems downstream of the discharge point.
6. Family transfers, administrative and large lot subdivisions.
7. Residential subdivisions in which all lots are greater than 5 acres.

*(#6 and #7 are not standard exemptions.)*

#### **1.4. Compatibility with Other Permit and Ordinance Requirements**

This ordinance is not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. The requirements of this ordinance should be considered minimum requirements, and where any provision of this ordinance imposes restrictions different from those imposed by any other or ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence.

#### **1.5. Severability**

If the provisions of any article, section, subsection, paragraph, subdivision or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this ordinance.

#### **1.6. Reference Documents**

The latest edition of the following documents shall be utilized for the purposes of establishing design guidelines, which are not specifically detailed in this document but are included by this reference;

1. “Virginia Stormwater Management Handbook”, prepared by Virginia Department of Conservation and Recreation, Chapters 3-6.
2. “Northern Virginia BMP Handbook: A Guide to Planning BMP’s in Northern Virginia”, prepared by the Northern Virginia Planning District Commission and the Engineers and Surveyors’ Institute.
3. “Virginia Erosion and Sediment Control Handbook”, prepared by the Virginia Department of Conservation and Recreation.

Other design criteria may be accepted solely at the discretion of the program administrator. Sufficient support material to document the methodology will be required. *(This will allow use of new technologies that become available.)*

#### **1.7. Program Administration**

The Board of Supervisors designates the County Administrator or his designee as the program administrator.

#### **Section 2. Definitions:**

**"Accelerated Erosion"** means erosion caused by development activities that exceeds the natural processes by which the surface of the land is worn away by the action of water, wind, or chemical action.

**"Act"** means Article 1.1 (§ 10.1-603.1 et seq.) of Chapter 6 of Title 10.1 of the Code of Virginia.

**"Adequate Channel"** means a channel with a defined bed and banks, or an otherwise limited flow area that will convey the designated frequency storm event without overtopping the channel banks or causing erosive damage to the channel bed or banks.

**"Applicant"** means any person submitting a stormwater management plan for approval.

**"Aquatic Bench"** means a 10- to 15- foot wide bench around the perimeter of a permanent pool that ranges in depth from zero to 12 inches. Vegetated with emergent plants, the bench augments pollutant removal, provides habitats, conceals trash and water level fluctuations, and enhances safety.

**"Best Management Practice (BMP)"** means a structural or nonstructural practice, which is designed to minimize the impacts of development on surface and groundwater systems.

**"Bioretention Basin"** means a water quality BMP engineered to filter the water quality volume through an engineered planting bed, consisting of a vegetated surface layer (vegetation, mulch, ground cover), planting soil, and sand bed, and into the in-situ material.

**"Bioretention Filter"** means a bioretention basin with the addition of a sand filter collection pipe system beneath the planting bed.

**"Board"** means the Fauquier County Board of Supervisors.

**"Building"** means any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal, or property, and occupying more than 100 square feet of area.

**"Channel"** means a natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

**"Constructed Wetlands"** means areas intentionally designed and created to emulate the water quality improvement function of wetlands for the primary purpose of removing pollutants from stormwater.

**"Dedication"** means the deliberate appropriation of property by its owner for general public use.

**"Department"** means the Virginia Department of Conservation and Recreation.

**"Detention"** means the temporary storage of storm runoff in a stormwater management practice with the goals of controlling peak discharge rates and providing gravity settling of pollutants.

**"Detention Facility"** means a detention basin or alternative structure designed for the purpose of temporary storage of stream flow or surface runoff and gradual release of stored water at controlled rates.

**"Developer"** means a person who undertakes land disturbance activities.

**"Development"** means *land development* or *land development project*.

**"Drainage Easement"** means a legal right granted by a landowner to a grantee allowing the use of private land for stormwater management purposes.

**"Erosion and Sediment Control Plan"** means a plan that is designed to minimize the accelerated erosion and sediment runoff at a site during construction activities.

**"Flooding"** means a volume of water that is too great to be confined within the banks or walls of the stream, water body or conveyance system and that overflows onto adjacent lands, causing or threatening damage.

**"Grassed Swale"** means an earthen conveyance system, which is broad and shallow with erosion resistant grasses and check dams, engineered to remove pollutants from stormwater runoff by filtration through grass and infiltration into the soil.

**"Hydrologic Soil Group (HSG)"** means a Natural Resource Conservation Service classification system in which soils are categorized into four runoff potential groups. The groups range from A soils, with high permeability and little runoff production, to D soils, which have low permeability rates and produce much more runoff.

**"Impervious Cover"** means a surface composed of any material that significantly impedes or prevents natural infiltration of water into soil. Impervious surfaces include, but are not limited to, roofs, buildings, streets, parking areas, and any concrete, asphalt, or compacted gravel surface.

**"Industrial Stormwater Permit"** means an National Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries that regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

**"Infiltration"** means the process of percolating stormwater into the subsoil.

**"Infiltration Facility"** means any structure or device designed to infiltrate retained water to the subsurface. These facilities may be above grade or below grade.

**"Jurisdictional Wetland"** means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation

typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

**"Land Conversion Activities"** any activity that results in a modification to the current or natural condition.

**"Land Development" or "Land Development Project"** means a manmade change to the land surface that potentially changes its runoff characteristics.

**"Land Disturbance Activity"** means any activity that changes the volume, velocity, or peak flow discharge rate of rainfall runoff from the land surface. This may include the grading, digging, cutting, scraping, or excavating of soil, placement of fill materials, paving, construction, substantial removal of vegetation, or any activity which bares soil or rock or involves the diversion or piping of any natural or man-made watercourse.

**"Landowner"** means the legal or beneficial owner of land, including those holding the right to purchase or lease the land, or any other person holding proprietary rights in the land.

**"Linear Development Project"** means a land development project that is linear in nature such as, but not limited to, (i) the construction of electric and telephone utility lines, and natural gas pipelines; (ii) construction of tracks, rights-of-way, bridges, communication facilities and other related structures of a railroad company; and (iii) highway construction projects.

**"Local Stormwater Management Program" or "Local Program"** means a statement of the various methods adopted pursuant to the Act and implemented by a locality to manage the runoff from land development projects and shall include an ordinance with provisions to require the control of after-development stormwater runoff rate of flow, water quality, the proper maintenance of stormwater management facilities, and minimum administrative procedures consistent with this chapter.

**"Locality"** means Fauquier County

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**"Maintenance Agreement"** means a legally recorded document that acts as a property deed restriction, and which provides for long-term maintenance of storm water management practices.

**"Nonpoint Source (NPS) Pollution"** means pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

**"Nonpoint Source Pollutant Runoff Load" or "Pollutant Discharge"** means the average amount of a particular pollutant measured in pounds per year, delivered in a diffuse manner by stormwater runoff

**"Off-Site Facility"** means a stormwater management measure located outside the subject property boundary described in the permit application for land development activity.

**"On-Site Facility"** means a stormwater management measure located within the subject property boundary described in the permit application for land development activity.

**"Owner"** means the owner or owners of the freehold of the premises or lesser estate therein, a mortgagee or vendee in possession, assignee of rents, receiver, executor, trustee, lessee or other person, firm or corporation in control of a property.

**"Percent Impervious"** means the impervious area within the site divided by the area of the site multiplied by 100.

**"Person"** means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, county, city, town or other political subdivision of the Commonwealth, any interstate body or any other legal entity.

**"Plan-approving Authority"** means the Board of Supervisors or its designee, responsible for determining the adequacy of a submitted stormwater management plan.

**"Planning Area"** means a designated portion of the parcel on which the land development project is located. Planning areas shall be established by delineation on a master plan. Once established, planning areas shall be applied consistently for all future projects.

**"Post-development"** refers to conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land.

**"Pre-development"** refers to the conditions that exist at the time that plans for the land development of a tract of land are approved by the plan approving authority. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time *prior to* the first item being approved or permitted shall establish pre-development conditions.

**"Program Administrator"** means the County Administrator or his designee.

**"Program Authority"** means the county that has adopted a stormwater management program.

**"Recharge"** means the replenishment of underground water reserves.

**"Redevelopment"** means the process of developing land that is or has been previously developed.

**"Regional (watershed-wide) Stormwater Management Facility" or "Regional Facility"** means a facility or series of facilities designed to control stormwater runoff from a specific watershed, although only portions of the watershed may experience development.

**"Runoff" or "stormwater runoff"** means that portion of precipitation that is discharged across the land surface or through conveyances to one or more waterways.

**"Site"** means the parcel of land being developed, or a designated planning area in which the land development project is located.

**"State Waters"** means all waters on the surface and under the ground wholly or partially within or bordering the Commonwealth or within its jurisdiction.

**"Stop Work Order"** means an order issued which requires that all land disturbing and construction activity on a site be stopped.

**"Stormwater Detention Basin" or "Detention Basin"** means a stormwater management facility that temporarily impounds runoff and discharges it through a hydraulic outlet structure to a downstream conveyance system. While a certain amount of outflow may also occur via infiltration through the surrounding soil, such amounts are negligible when compared to the outlet structure discharge rates and are, therefore, not considered in the facility's design. Since a detention facility impounds runoff only temporarily, it is normally dry during non-rainfall periods.

**"Stormwater Extended Detention Basin" or "Extended Detention Basin"** means a stormwater management facility that temporarily impounds runoff and discharges it through a hydraulic structure over a period of time to a downstream conveyance system for the purpose of water quality enhancement or stream channel erosion control. While a certain amount of outflow may also occur via infiltration through the surrounding soil, such amounts are negligible when compared to the outlet structure discharge rates and, therefore, are not considered in the facility's design. Since an extended detention basin impounds runoff only temporarily, it is normally dry during non-rainfall periods.

**"Stormwater Management Facility"** means a device that controls stormwater runoff and changes the characteristics of that runoff including, but not limited to, the quantity and quality, the period of release or the velocity of flow.

**"Stormwater Management"** means the use of structural or non-structural practices that are designed to reduce storm water runoff pollutant loads, and/or peak flow discharge rates and control discharge volumes.

**"Stormwater Management Plan" or "Plan"** means a document containing material for describing how existing runoff and quality characteristics will be affected by a land development project and methods for complying with the requirements of the local program. Best Management Practices are part of the Stormwater Management Plan.

**"Stormwater Retention Basin"** see Wet Pond

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**"Stormwater Runoff"** means flow on the surface of the ground, resulting from precipitation.



**"Vegetated Filter Strip"** means a densely vegetated section of land engineered to accept runoff as overland sheet flow from upstream development. It shall adopt any vegetated form, from grassy meadow to small forest. The vegetative cover facilitates pollutant removal through filtration, sediment deposition, infiltration and absorption, and is dedicated for that purpose.

**"Watercourse"** means a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.

**"Watershed"** means a defined land area drained by a river, stream, drainage ways or system of connecting rivers, streams, or drainage ways such that all surface water within the area flows through a single outlet.

**"Wet Pond or Retention Basin"** also known as a retention basin, is a man-made basin which contains a permanent pool of water much like a lake or natural pond. The wet pond is designed to hold a permanent pool above which storm runoff is stored and released at a controlled rate. The release is regulated by an outlet device designed to discharge flows at various rates similar to the methods employed in an extended detention pond.

### **Section 3. Stormwater Management Program Permit Procedures and Requirements**

#### **3.1. Permit Required.**

No land owner or land operator shall receive any of the building, grading or other land development permits required for land disturbance activities without first meeting the requirements of this ordinance prior to commencing the proposed activity.

Unless otherwise excepted by this ordinance, an approved SWM plan must be submitted and accompanied by the following in order for a land disturbing permit application to be considered:

1. Stormwater management and BMP plan in accordance with Section 3.2;
2. Maintenance agreement in accordance with Section 3.3;
3. Performance bond estimate in accordance with Section 3.4; and
4. Permit application and Plan review fee in accordance with Section 3.5.

#### **Plan Inactivity**

Should a land-disturbing activity associated with an approved SWM plan in accordance with this section not begin within the 180-days following approval and plat recordation or cease for more than 180 days, the county may evaluate the existing approved erosion and sediment control plan and stormwater management plan to determine whether the plan still satisfies local program requirements and to verify that all design factors are still valid. If the authority finds the previously filed plan to be inadequate, a modified plan shall be submitted and approved prior to the resumption of land-disturbing activities, and a new performance bond shall be posted.

Any facility specifically designed to be regional in nature shall not be subject to the above criteria providing no modifications or changes to land use designations can be demonstrated.

### **3.2. Stormwater Management Plan Required.**

No application for land development, land use conversion, or land disturbance will be approved unless it includes a stormwater management plan, including Best Management Practices, as required by this ordinance, detailing how runoff and associated water quality impacts resulting from the activity will be controlled or managed.

A stormwater management plan shall consist of a *concept plan* to ensure adequate planning for the management of stormwater runoff and quality control, and a *final plan*. Both plans shall be in accordance with the criteria established in this section.

No building, grading, or erosion and sediment control permit shall be issued until a satisfactory final stormwater management plan or a waiver thereof, shall have undergone a review and been approved by the program administrator after determining that the plan or waiver is consistent with the requirements of this Ordinance.

#### **1. Stormwater Management/BMP Concept Plan**

A stormwater management concept plan or proof of prior approval of a concept plan shall be required with all preliminary plan and rezoning applications, and will include all information from the submittal checklist to evaluate the environmental characteristics of the project site, the potential impacts of all proposed development of the site, both present and future, on the water resources, and the effectiveness and acceptability of the measures proposed for managing stormwater generated by the project site. A concept plan will not be required if a preliminary plan or rezoning is not required. (*This allows site plans to be submitted without concept plans.*)

The concept plan should be prepared at the time of the preliminary plan or other early step in the development process to identify the type of stormwater management measures necessary for the proposed project. The intent of this conceptual planning process is to ensure adequate planning for management of stormwater runoff from future development. To accomplish this goal the following information shall be included in the concept plan:

- A. A map (or maps) indicating the location of existing and proposed buildings, roads, parking areas, utilities and structural stormwater management. The map(s) will also clearly show proposed land use with tabulation of the percentage of surface area to be adapted to various uses; drainage patterns; locations of utilities, roads and easements; the general limits of clearing and grading; A written description of the site plan and justification of proposed changes in natural conditions may also be required.

B. Engineering analysis to show that the proposed stormwater management measures are capable of controlling runoff from the site in compliance with the text and specifications of this ordinance.

C. A written or graphic inventory of the natural resources at the site and surrounding area as it exists prior to the commencement of the project and a description of the watershed and its relation to the project site. This description should include a discussion of soil conditions, forest cover, topography, wetlands, and other native vegetative areas on the site. Particular attention should be paid to environmentally sensitive features that provide particular opportunities or constraints for development.

## 2. Stormwater Management/BMP Final Plan

Following review of the stormwater management concept plan, and modifications to that plan as deemed necessary by the County, a final stormwater management plan must be submitted for approval.

All stormwater management plans shall be appropriately sealed and signed by a professional in adherence to all minimum standards and requirements pertaining to the practice of that profession in accordance with Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia and attendant regulations certifying that the plan meets all submittal requirements outlined in this ordinance and is consistent with good engineering practice.

All stormwater management plans shall have BMP's. *(The County will use the current "Occoquan" method for calculations.)*

The final stormwater management plan, in addition to the information from the concept plan, shall include all of the information required in the Final Stormwater Management/BMP Plan checklist. This includes:

### A. Contact Information

The name, address, and telephone number of all persons having a legal interest in the property and the parcel identification number of the property or properties affected.

### B. County Soils Survey and Topographic Base Map

An appropriate scale of the current County Soils Survey and topographic base map of the site which extends include the top of the drainage shed and a minimum of 200 feet beyond the limits of the proposed development and indicates existing surface water drainage including streams, ponds, culverts, ditches, and wetlands; current land use including all existing structures; locations of utilities, roads, and

easements; and significant natural and manmade features not otherwise shown. Soils information from the “Interpretive Guide to the Soils of Fauquier County” shall be placed on the base map for each mapping unit. The source of topographic and soil map shall be stated. A drainage divide map shall be provided that identifies all offsite and onsite drainage patterns to the top of each drainage shed.

#### C. Calculations

Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in this ordinance shall be submitted. Such calculations shall include (i) description of the design storm frequency, intensity and duration, (ii) time of concentration, (iii) Soil Curve Numbers or runoff coefficients, (iv) peak runoff rates and total runoff volumes for each watershed area, (v) infiltration rates, where applicable, (vi) culvert sizing, (vii) flow velocities, (viii) data on the increase in rate and volume of runoff for the specified design storms, and (ix) documentation of sources for all computation methods and field test results. (See Section 4.)

#### D. Soils Information

Geotechnical properties for the hydrologic and structural properties of soils, for all dam embankments exceeding 15 feet in height or 15 acre feet in impoundment capacity, shall be described in a geotechnical report and submitted to the County for review. The report shall include boring depth, sampling frequency and types and associated laboratory testing with results and conclusions and follow the criteria in the Virginia Stormwater Management Manual.

Soil properties for infiltration facilities shall also conform to the guidance and specification outlined in the Virginia Stormwater Management Manual. Information shall include depth to rock, type of rock, depth to water table and permeability (in/hr) 3 feet below trench bottom. Someone qualified to perform work shall provide information.

#### E. Maintenance Plan

The design and planning of all stormwater management facilities shall include detailed maintenance procedures to ensure their continued function. These plans will identify the parts or components of a stormwater management facility that need to be maintained and the equipment and skills or training necessary.

#### F. Landscaping Plan

The applicant must present a detailed landscaping plan describing the woody and herbaceous vegetative stabilization and management techniques to be used within and adjacent to the stormwater practice. The landscaping plan must also describe who will be responsible for the maintenance of vegetation at the site and what

practices will be employed to ensure that adequate vegetative cover is preserved. This plan must be prepared by a qualified individual familiar with the selection of emergent and upland vegetation appropriate for the selected BMP.

#### G. Maintenance Easements

The applicant must ensure access to all stormwater treatment practices at the site for the purpose of inspection and repair by securing all the maintenance easements needed on a permanent basis. These easements will be recorded with the plan and will remain in effect even with transfer of title to the property. See Section 3.3

All stormwater management facilities must be located within a drainage easement (i.e., 10 feet from the toe of slope and/or periphery) and shall be maintained by the landowner, an Owners or Homeowners Association, or other legal entity approved by the Board of Supervisors. Maintenance responsibilities shall be established in the required Deed of Dedication, in a form acceptable to the County Attorney.

In subdivisions, all SWM/BMP facilities shall be placed in a common area unless prior approval has been obtained from the program administrator. *(This will require a Homeowners Association to take responsibility for operation and maintenance rather than a private individual.)*

#### H. Maintenance Agreement

The applicant must execute an easement and a Stormwater/BMP Maintenance Agreement binding on all subsequent owners of land served by an on-site stormwater management/BMP measure in accordance with the specifications of this ordinance. See Section 3.4.

#### I. Erosion and Sediment Control Plans for Construction of Stormwater Management Measures

The applicant must prepare an erosion and sediment control plan in accordance with the Virginia Erosion and Sediment Control Minimum Standards (4VAC50-30-40) and the requirements of the County's Soil Erosion and Sediment Control Ordinance for all construction activities related to implementing any on-site stormwater management practices. The Erosion and Sediment Control Plan shall be submitted concurrently with the stormwater management plan.

#### J. Other Environmental Permits

The applicant shall assure that all other applicable environmental permits have been acquired for the site prior to approval of the final stormwater/BMP plan.

This may include, but not be limited to, Department of Environmental Quality (DEQ), Corps of Engineers (COE), Virginia Marine Resources Commission (VMRC) and Department of Conservation and Recreation (DCR).

#### K. Floodplain Study

Any construction associated with a stormwater management/BMP facility proposed within a 100-year FEMA defined floodplain, will require the submission of a Floodplain Study documenting pre-development and post-development conditions for review by the County. Modifications to the floodplain will require final FEMA determination at the owner's expense.

#### L. Redevelopment

All redevelopment projects not served by an existing water quality BMP shall either reduce existing site impervious areas by 20% or implement water quality BMP's to reduce pre-redevelopment pollution loads of the existing site by 10%. *(Allows expansion of existing sites but requiring only a 10% reduction for the existing impervious areas.)*

#### M. Embankments and Water Impoundments

Embankments and water impoundments shall be in accordance with 3.01 through 3.08 of the Virginia Stormwater Management Control Handbook.

### **3.3. Stormwater Facility Maintenance Agreements**

Prior to the issuance of any permit that has a stormwater management facility, as one of the requirements of the permit, the applicant or owner of the site must execute a maintenance agreement that shall be binding on all subsequent owners of land served by the subsequent owners of land served by the stormwater management facility.

1. Maintenance activities shall not alter the design function of the facility from its original design unless approved by the County prior to the commencement of the proposed maintenance activity.

2. Maintenance Agreement

Maintenance of all stormwater management facilities shall be ensured through the creation of a formal maintenance agreement that must be approved by the County and recorded into the land record prior to final plat approval. The agreement shall identify by name or official title the person(s) responsible for carrying out the maintenance. Responsibility for the operation and maintenance of stormwater management facilities shall remain with the property owner and shall pass to any successor or owner. If portions of the land are to be sold, legally binding arrangements shall be made to pass the responsibility to successors in title.

The agreement shall provide that in the event that maintenance or repair is neglected, or the stormwater management facility becomes a danger to public health or safety, the County shall have the authority to perform the work and to recover the costs from the owner.

### **3.4 Performance Bonds**

The County shall require the submittal of a performance security or bond with surety, cash escrow, letter of credit or such other acceptable legal arrangement prior to issuance of a permit in order to insure that the stormwater practices are installed by the permit holder as required by the approved stormwater management plan.

1. The amount of the installation performance security shall be the total estimated construction cost of the stormwater management/BMP practices approved under the permit, plus 25%.
2. The performance security shall contain forfeiture provisions for failure, after proper notice, to complete work within the time specified, or to initiate or maintain appropriate actions that may be required of the applicant in accordance with the approved stormwater management plan.
3. If the County takes such action upon such failure by the applicant, the County may collect from the applicant for the difference should the amount of the reasonable cost of such action exceed the amount of the security held.
4. The landscaping portion of the bond for stormwater management/BMP plan shall be held for one year after installation in accordance with the final plans and specifications prior to final release.
5. These requirements are in addition to all other provisions of the County ordinances relating to the issuance of such plans and are not intended to otherwise affect the requirements for such plans.
6. The County reserves the right to re-evaluate the bond associated with any project for which an extension is requested to ensure that the bond adequately reflects current market conditions.

### **3.5. SWM/BMP Review Fees**

Applicants shall submit a review fee to Fauquier County as outlined in the Department of Community Development fee schedule in effect at the time of acceptance of the application.

### **3.6. SWM/BMP Final Plan Submittal Review Application**

1. Applications shall include the following: one copy of the approved SWM/BMP concept plan, two copies of the stormwater management/BMP final plan, two copies of the maintenance agreement, the SWM/BMP checklist, and any required review fees.
2. Within 60 calendar days of the receipt of a complete application, including all documents as required by this ordinance, the County shall inform the applicant whether the application and plan are approved or disapproved.
3. If the stormwater management plan is disapproved, the County shall communicate the decision to the applicant in writing. The applicant may then revise the stormwater management plan. If additional information is submitted, the County shall have 45 calendar days from the date the additional information is received to inform the applicant that the plan is either approved or disapproved.
4. If the County approves the final stormwater management plan and maintenance agreement, the following conditions apply:
  - A. The applicant shall comply with all applicable requirements of the approved plan and this ordinance and shall certify that all land clearing, construction, land development and drainage will be done according to the approved plan.
  - B. The land development project shall be conducted only within the area specified in the approved plan.
  - C. The County shall be allowed to conduct periodic inspections of the project.
  - D. The person responsible for implementing the approved plan shall conduct monitoring to ensure compliance with the approved plan.
  - E. No changes may be made to an approved plan without review and written approval by the County.
  - F. The owner is responsible for maintaining certified construction logs, including performance as-builts surveys, and geotechnical inspections during subsurface or embankment construction and compaction activities as outlined in the Virginia Stormwater Management Handbook. The County may request this information for review.

#### **Section 4. General Criteria for Stormwater Management**

The following technical criteria shall be applied on all applicable land development and land conversion activities.

##### **4.1 General**



1. Determination of flooding and channel erosion impacts to receiving streams due to land development projects shall be measured at each point of discharge from the development project and such determination shall include any runoff from the balance of the watershed which also contributes to that point of discharge.

2. The specified design storms shall be defined as either a 24-hour storm using the rainfall distribution recommended by the U.S. Soil Conservation Service when using U.S. Soil Conservation Service methods or as the storm of critical duration that produces the greatest required storage volume at the site when using a design method such as the Modified Rational Method. Pre-development and post-development runoff rates for the 2, 10 and 100 year storms shall be verified by calculations that are consistent with sound engineering practices.

SCS Hydrology. SCS Hydrology consists of Technical Release Number 20 (TR-20) and Technical Release Number 55 (TR-55) including the COE HEC-1 software, SCS applications. This hydrology is preferred and acceptable for all applications.

Other Hydrologic Methods. It is recognized that there are many hydrologic methods available, especially in the form of computer software. The program administrator may approve other hydrologic methods for specific applications provided it is demonstrated that the alternatives are appropriate for the purpose intended.

3. All development occurring within the County shall provide stormwater management facilities and Best Management Practices adequate to reduce increased runoff rates and nonpoint source pollution, as outlined herein. The design shall include control of stream flow rates, water surface levels, and runoff rates. This does not preclude demonstration of compliance with Minimum Standard 19 and TB-1 as a method of quantity control.

to 4. For purposes of computing runoff, all pervious lands in the site shall be assumed prior development to be in good condition (if the lands are pastures, lawns, or parks), with good cover (if the lands are woods), or with conservation treatment (if the lands are cultivated); regardless of conditions existing at the time of computation.

5. Construction of stormwater management facilities or modifications to channels shall comply with all applicable laws and regulations. Evidence of approval of all necessary permits, such as US Army Corps of Engineers, VA DEQ Wetland Permits, VA DEQ and VPDES Permits, etc. shall be presented.

6. Impounding structures that are not covered by the Impounding Structure Regulations (4 VAC 50-20-10 et seq.) shall be engineered for structural integrity during the 100-year storm event.

7. Pre-development and post-development runoff rates shall be verified by calculations that are consistent with good engineering practices. SWM facilities shall be designed to

regulate the 2 and 10-year storm such that the post-developed peak flows do not exceed pre-development peak flow and safely pass the 100-year storm event.

8. Outflows from a stormwater management facility shall be discharged to an adequate channel, so as to provide a non-erosive velocity of flow from the basin to the channel.

9. Proposed residential, commercial, or industrial subdivisions shall apply these stormwater management criteria to the land development process as a whole. Individual lots in new subdivisions shall not be considered separate land development projects, but rather the entire subdivision shall be considered a single land development project. Hydrologic parameters shall reflect the ultimate basin planned land uses and shall be applied in all engineering calculations.

10. All stormwater management facilities shall have a maintenance plan that identifies the owner and the responsible party for carrying out the maintenance plan.

11. Construction of stormwater management impoundment structures within a Federal Emergency Management Agency (FEMA) designated 100-year floodplain shall be avoided to the maximum extent possible. When this is unavoidable, all stormwater management facility construction shall be in compliance with all applicable regulations under the National Flood Insurance Program, 44 CFR Part 59 and shall be engineered for structural integrity during the 100 year storm event by the primary flooding source or secondary source, whichever yields the most conservative design.

12. Natural channel characteristics and drainage divides shall be preserved to the maximum extent practicable. SWM quality and quantity shall be addressed within each drainage area.

13. Land development projects shall comply with the Virginia Erosion and Sediment Control Law and attendant regulations and the County Soil Erosion and Sediment Control Ordinance.

14. SWM and BMP facilities shall not be located in required buffer areas unless authorized by the Zoning Administrator.

15. All SWM/BMP ponds must be constructed prior to 70% completion (based on performance bond) of the approved project. When ponds are used as temporary sediment controls, the facility must be converted once 90% permanent stabilization has been established as defined in Chapter 11 of the County Code.

#### 16. Conveyance Issues

All stormwater management conveyance practices shall be designed to convey stormwater to allow for the maximum removal of pollutants and reduction in flow velocities. This shall include, but not be limited to:

- A. Maximizing of flow paths from inflow points to outflow points
- B. Protection of inlet and outfall structures
- C. Elimination of erosive flow velocities

The Virginia Stormwater Management Manual and Virginia Erosion and Sediment Control Handbook provides detailed guidance on the requirements for conveyance for each of the approved stormwater management practices.

Stormwater drainage easements shall be extended where necessary to upstream property lines to permit future development reasonable access to on-site drainage ways or drainage systems for connection.

Residential lots in which lot size is less than thirty thousand (30,000) square feet shall be graded in such a manner that surface runoff does not cross more than three (3) lots before it is collected in a storm sewer system or designed stormwater conveyance channel. All surface drainage must be contained in an adequate easement once it is discharged from the third residential lot. Any concentrated stormwater must be contained in an adequate easement.

Hydrologic and hydraulic design calculations to demonstrate 10-year overland relief, with the storm sewer system plugged, shall be provided. Calculations for overlot drainage practices, shall be provided, where appropriate.

#### 17. Pretreatment Requirements

Every stormwater treatment practice shall consider acceptable forms of water quality pretreatment. The applicability of pretreatment will be at the discretion of the review agent.

#### 18. Landscaping Plans Required

All stormwater management practices must have a landscaping plan detailing both the vegetation to be in the practice and how and who will manage and maintain this vegetation. This plan must be prepared by a qualified individual familiar with the selection of emergent and upland vegetation appropriate for the selected BMP.

#### 19. Safety

All wet facilities shall have an aquatic bench at least 10' wide with slopes not to exceed 1:10 (V:H) slope or 1' water depth.

No facility shall have slopes and/or embankments steeper than 3:1 (H:V) without prior approval of the program administrator.

#### 20. Maintenance Agreements

A legally binding covenant specifying the parties responsible for the proper maintenance of all stormwater treatment practices shall be secured prior to issuance of any permits for land disturbance activities.

21. No more than 1 penetration shall be allowed through a dam structure without prior approval of the program administrator.

22. Stormwater management facilities may be either above grade or below grade design, however, underground facilities shall only be permitted within non-residential areas.

23. No stormwater conveyance pipe shall be less than 15" in diameter.

24. Principle outlet control structures shall be RCP unless prior approval is obtained from the approval authority.

25. Storm sewer design calculations shall be performed in accordance with the practices presented in the current edition of the VDOT drainage manual.

## **4.2 Water Quality**

### **General Policy for BMP and Stormwater Quality:**

A. All development or redevelopment occurring within the County shall incorporate water quality measures (Best Management Practices).

B. The current edition of the "Northern Virginia BMP Handbook", prepared by the Northern Virginia Planning District Commission (NVPDC), shall be used in the design and review of BMP facilities. Other design criteria may be used solely at the discretion of the program administrator. Sufficient support material to document the methodology will be required.

C. Pollution loads shall be determined by calculation methods set forth in the "Northern Virginia BMP Handbook". Where required, BMP facilities shall be designed to reduce projected phosphorus runoff resulting from site development by at least forty percent (40%). Phosphorus removal efficiencies for the different types of BMP systems are established in the "Northern Virginia BMP Handbook" and the Virginia SWM Handbook. Where a method or facility without an efficiency rating is proposed, the designer shall be required to adequately substantiate the ratings before the design is approved

D. If a site is less than 20,000 square feet of disturbed area and no structural stormwater management is required, the phosphorus removal requirement shall be 15%.

E. All stormwater runoff generated from new development shall not be discharged into a jurisdictional wetland or local water body without adequate treatment.

F. A minimum separation of 50' shall be provided between drain fields and SWM/BMP facilities, except wet ponds. A minimum separation of 100' shall be provided between drain fields and wet ponds.

#### **4.3 Stream Channel Erosion**

To protect stream channels from degradation, a specific channel protection shall be provided as prescribed in the Virginia Stormwater Management Handbook and the Virginia Erosion and Sediment Control Regulations.

1. Properties and receiving waterways downstream of any land development project shall be protected from erosion and damage due to increases in volume, velocity and frequency of peak flow rate of stormwater runoff in accordance with the minimum design standards set out in this section.
2. The plan approving authority shall require compliance with Minimum Standard 19 of 4 VAC 50-30- 40 of the Erosion and Sediment Control Regulations, promulgated pursuant to Article 4 (§ 10.1-560 et seq.) of Chapter 5 of Title 10.1 of the Code of Virginia.
3. The plan approving authority may determine that some watersheds or receiving stream systems require enhanced criteria in order to address the increased frequency of bankfull flow conditions brought on by land development projects. Therefore, in lieu of the reduction of the 2 and ten year post-developed peak rate of runoff as required in subsection 2 of this section, the land development project being considered shall provide 24-hour extended detention of the runoff generated by the 1-year, 24-hour duration storm at the discretion of the plan approving authority.

#### **4.4 Flooding**

Calculations for determining flooding shall be submitted.

1. Downstream properties and waterways shall be protected from damages from localized flooding due to increases in volume, velocity and peak flow rate of stormwater runoff in accordance with the minimum design standards set out in this section.
2. The 2 and 10-year post-developed peak rate of runoff from the development site shall not exceed the 2 and 10-year pre-developed peak rate of runoff.
3. No combined primary and emergency spillway will be allowed without prior approval by the program administrator.
4. In areas of streambeds subject to inundation with 100 acres or more of watershed, 100-year floodwater surface elevations shall be computed. Drainage easements must be stabilized on site to preserve the inundation zone. Calculations shall be based on land use as outlined in the Comprehensive Plan.

5. All requirements as set forth in MS-19 and TB-1 must be met.
6. Linear development projects shall not be required to control post-developed stormwater runoff for flooding, if there is no net increase in impervious area, except in accordance with a watershed or regional stormwater management plan.

## **Section 5. Construction Inspection**

All stormwater management construction inspections shall utilize the final approved plans and specifications for compliance. In addition, the inspection shall comply with the latest version of the Erosion and Sediment Control Regulations, promulgated pursuant to Article 4 (§ 10.1-566) of Chapter 5 of Title 10.1 of the Code of Virginia.

If the County determines that there is a failure to comply with the plan, notice shall be served upon the permittee or person responsible for carrying out the plan in accordance with Section 7 of this Ordinance.

### **5.1. Post-Construction Final Inspection and As-Built Plans**

1. If embankment height exceeds 15 feet or the impoundment capacity exceeds 15 acre feet, the applicant will be required to submit evidence of geotechnical inspections conducted during embankment construction.
2. All applicants are required to submit “as built” plans and analysis for any stormwater management practices located on-site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and routing through the as-built condition, and must be certified by a professional engineer. A final inspection by the County is required before the release of any performance securities can occur. As-built analysis must meet or exceed the approved performance of each facility.

## **Section 6. Maintenance Inspection and Repair of Stormwater Facilities**

### **6.1. Maintenance Inspection of Stormwater Facilities**

To ensure proper performance of the stormwater facility, the property owner or owner’s association is responsible for inspecting the stormwater management facility in accordance with the approved maintenance plan and the stormwater management design manual. The responsible party shall keep written records of inspections and make them available to the County upon request.

In the event that the stormwater management facility has not been maintained, or has been damaged, and/or becomes a danger to public safety or public health, the County shall notify the person responsible for carrying out the maintenance plan by registered or certified mail to the address of the owner of record. The owner shall be required to provide an inspection of the facility, by a person qualified to perform such inspection. If the responsible party fails or refuses to correct deficiencies, to meet the requirements of the maintenance agreement, the County after

reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the facility in proper working condition, and recover the costs from the owner.

## **Section 7. Enforcement and Penalties.**

### **7.1. Notice of Violation**

When the Program Administrator determines that an activity is not being carried out in accordance with the requirements of this Ordinance, it shall issue a written notice of violation delivered by registered or certified mail to the applicant of record for the activity. Each calendar day of an activity conducted in violation of the ordinance shall constitute a separate violation, but may be covered by one Notice of Violation. The notice of violation shall contain:

1. The name and address of the property owner;
2. The address when available or a description of the building, structure or land upon which the violation is occurring;
3. A statement specifying the nature of the violation;
4. A description of the remedial measures necessary to bring the development activity into compliance with this Ordinance and a time schedule for the completion of such remedial action;
5. A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
6. A statement that the determination of violation may be appealed to the municipality by filing a written notice of appeal within thirty (30) days of service of notice of violation.

### **7.2. Stop Work Orders**

Persons receiving a notice of violation will be required to halt all construction activities. This “stop work order” will be in effect until the County confirms that the development activity is in compliance and the violation has been satisfactorily addressed. Upon failure to comply within the time specified, the permit may be revoked and the applicant shall be deemed to be in violation of this article and upon conviction shall be subject to the penalties provided by this Ordinance - Section 7.3.

### **7.3. Civil and Criminal Penalties**

Any person who violates any provision of a local ordinance or program adopted pursuant to the authority of this article shall be guilty of a Class 1 misdemeanor and shall be subject to a fine not exceeding \$1,000 or up to thirty days imprisonment for each violation or both. Each calendar

day during which the activity occurs, or day during which required conditions are not met or standards are violated shall constitute a separate violation. In addition the County may pursue the following actions:

1. The County may apply to the circuit court to enjoin a violation or a threatened violation of the provisions of this ordinance without the necessity of showing that an adequate remedy at law does not exist.
2. Without limiting the remedies that may be obtained in this section, the County may bring a civil action against any person for violation of this ordinance or any condition of a permit. The action may seek the imposition of a civil penalty not more than \$2,000 against the person for each violation.
3. With the consent of any person who has violated or failed, neglected or refused to obey this ordinance or any condition of a permit, the County may provide, in an order issued by the County against such person, for the payment of civil charges for violations in specific sums, not to exceed the limit specified in subdivision 2 of this section. Such civil charges shall be instead of any appropriate civil penalty that could be imposed under subdivision 2. Such a local ordinance may also include the following sanctions:

#### **7.4. Holds on Occupancy Permits**

Occupancy permits shall not be granted until corrections to all stormwater practices have been made in accordance with the approved plans, Notice of Violation, Stop Work Order, or Permit requirements, and accepted by the County.